

KARELIN, N.A.

Changes in the thermoelectromotive force during the plastic
deformation of iron. Fiz. met. i metalloved. 13 no.5:763-765
My '62. (MIRA 15:6)

1. Chelyabinskiy pedagogicheskiy institut.
(Thermoelectricity)
(Deformations (Mechanics))

GLADKOVSKIY, V.A.; KARELIN, N.A.

Effect of boron on yield points in alpha-iron. Fiz. met. i
metalloved. 13 no.5:772-774 My '62. (MIRA 15:6)

1. Chelyabinskiy nauchno-issledovatel'skiy institut metallurgii
i Chelyabinskiy pedagogicheskiy institut.
(Iron-boron alloys)
(Deformations (Mechanics))

S/279/63/Q00/001/014/023
E111/E452

AUTHORS: Gladkovskiy, V.A., Karelina, N.A. (Perm')

TITLE: Influence of boron on the yield-point elongation of alpha-iron

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i gornoye delo. no.1, 1963, 144-146

TEXT: . It has previously been shown that the appearance of yield-point elongation in alpha-iron is due to the presence of small quantities of carbon or nitrogen. It was therefore interesting to study the early stages of the deformation of alpha-iron containing boron additions, since the atomic radius of boron is close to those of carbon and nitrogen. The authors have done so with 99.9% pure Armco iron, with additions of 0.01 and 0.10% B. The mechanical tests were supplemented by thermoelectric potential measurements on a deformed/annealed thermocouple, which was found to be sensitive to the appearance of the elongation. Without boron there is no flat portion but with 0.01% B the "flat" becomes apparent and with 0.1% it is very pronounced. The effect is

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S/279/63/000/001/014/023
E111/E452

Influence of boron ...

connected specifically with the presence of boron in the iron and to its effect on grain size and shape. In contrast to nitrogen and carbon, boron reduces the susceptibility of alpha-iron to deformation ageing. The thermoelectric potential vs. strain curves are initially linear and identical for all three compositions but a break occurs at a critical value which depends on the extent of the "flat". The existence of a break on the curve for boron-free iron is due to the sensitivity of the emf method being greater than that of the mechanical method. The break is associated with the distinct change in dislocation density at various stages of deformation. There are 2 figures.

SUBMITTED: January 3, 1962

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KARELIN, N. M.

Karelin, N. M. - "Camless method of production of machine parts with curvilinear cross sections," (Candidate's dissertation), Trudy Mosk. aviats. tekhnol. in-ta, Issue 5, 1949, p. 100-51, - Bibliog: 7 items

SO: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

KARELIN, N.M.

Production of rotors for rotational gas meters. Izv.tekh.no.5:
41-45 S-0 '55. (Gas meters) (MLRA 9:1)

KARLIN, N.M.

Kinematic methods for machining curvilinear cross-section workpieces.
Priboestroenie no.6:21-24 Je '56. (MLRA 9:8)
(Machinery, Kinematics of)

KARELIN, N. M.

USSR/Processes and Equipment for Chemical Industries -
Control and Measuring Devices. Automatic Regulation

K-2

Abs Jour : Referat Zhur - Khimiya, No 9, 1957, 33326

Author : Bulatov, S.B., Karelin, N.M.

Inst :

Title : International Conference on Measurement of the Rate of
Flow of Fluids.

Orig Pub : Izmerit. tekhnika, 1956, No 6, 93-95

Abstract : No abstract.

Card 1/1

KARELIN, N.M., kandidat tekhnicheskikh nauk.

Machining polyhedrons without copying devices. Vest. mash. 36
no.8:42-46 '56. (MLRA 9:10)

(Metal cutting)

KARELIN, N.M.

Workpieces with curvilinear cross sections machined on gear shapers.
Priborostroenie no.2:15-18 F '57. (MLRA 10:4)
(Shapers)

KARELIN, N.M.

KARELIN, N.M., kand. tekhn. nauk, dots.

Machining part profiles traced by epicycloids, hypocycloids, and
equidistants without copying devices. Vest. mash. 38 no.1:63-73
Ja '58. (MIRA 11:1)

(Metal cutting) (Machine-shop practice)

25(1), 28(2)

AUTHOR: Karelin, N. M.

SOV/115-59-8-4/33

TITLE: The Kinematic Method of Producing Parts With Curvilinear Profiles and Methods for Estimating its Precision.

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 8, pp 9 - 13 (USSR)

ABSTRACT: A large number of parts with curvilinear cross sections is used in instrument building. The copying method and the kinematic method are used for machining such parts. With the kinematic method, the blank and the cutting instrument are connected by a kinematic chain providing such relative motion of the cutting instrument whereby the required profile is produced. In this paper, a method of plotting kinematic diagrams is described for kinematic machining of cylindrical parts with curvilinear cross sections, which is based on the theory of function approximation. Approximated trigonometrical polynomials are used. The curve describing the contour of the part or appearing as an equidistant contour is given in a polar coordinate system of the function $\rho = f(\theta)$. The interpretation of the trigonometri-

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SOV/115-59-3-4/33
The Kinematic Method of Producing Parts With Curvilinear Profiles
and Methods for Estimating its Precision

cal polynomial as a curve formed by a projection of a broken line, consisting of rotating links, on the first link, produces approximated curves by means of a simple kinematic system. A conversion of the kinematic diagram, shown in Figure 1, is used for creating a kinematic diagram, based on an accepted class of approximated curves, which corresponds to actual machine tool operating conditions. Adding mechanisms with two degrees of freedom may be used for a practical realization of the method. The adding mechanisms will add a finite number of harmonics. For changing the distance between the centers of a product and the cutting instrument, a hydraulic mechanism is suggested. A diagram of such a mechanism for a vertical milling machine is shown in Figure 3. This mechanism is described briefly. Further, a method is derived for estimating the influence of the errors in the manufacture of the mechanism on the accuracy of the curvilinear cross section of the part to be machined. For this purpose an equation is presented for determining $\Delta T_p(\theta)_{\max}$, the maximum radius vector error

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SOV/115-59-8-4/33
The Kinematic Method of Producing Parts With Curvilinear Profiles
and Methods for Estimating its Precision
which determines the given profile. There are 4 diagrams, 1 table and 1 Soviet reference.

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KAPELIN, N. N., Dr Tech Sci -- (diss) "Copyless development of parts having curving cross sections," Moscow, 1960, 30 pp, (Moscow Machine-Tool and Tool Institute named I. V. Stalin)
(KL, 38-60, 107)

KARELIN, N.M.

Objectives of mensuration engineering in agriculture. Izv.tekh.
no.2:1-2 F '61. (MIRA 14:2)
(Agriculture) (Measuring instruments)

KARELIN, N. M.

S/121/61/000/001/009/009
D040/D113

AUTHOR: None given

TITLE: Dissertations

PERIODICAL: Stanki i instrument. no. 1, 1961, 41

TEXT: The following three dissertations are listed: N. M. Karelin, dissertation for the degree of Doctor at the Moskovskiy stankoinstrumental'nyy institut im. I.V.Stalina (Moscow Institute of Machine Tools and Instruments im. I.V.Stalin); "Machining parts with curved cross sections without the use of tracers"; Wang Hsin-min, dissertation for the degree of Candidate at the Institut avtomatiki i telemekhaniki AN SSSR (Institute of Automation and Telemechanics, AS USSR), "Improving the dynamic properties of continuous automatic control systems by means of a delay element filter"; I.I. Akhmetgaleyev, dissertation for the degree of Candidate at the Kazanskiy aviatsionnyy institut (Kazan' Aviation Institute), "Contribution to the theory of two-channel automatic control systems with antisymmetric cross connections". [Abstracter's note: Full translation].

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KARELIN, N.M.; TYURIN, N.I.

New stage in the governmental inspection of measuring
instruments. Izv.tekh. no.9:1-5 S '61. (MIRA 14:8)
(Measuring instruments--Testing)

KARELIN, N.M.; KIPARENKO, V.I.

Methods for continuous automatic control of cylindrical parts
with curvilinear cross sections. Izv.tekh. no.11:7-12 N '61.
(MIRA 14:11)

(Measuring instruments)

S/115/62/000/003/001/010
E194/E484

AUTHOR: Karelin, N.M.

TITLE: The kinematic circuits of devices for continuous inspection of parts

PERIODICAL: Izmeritel'naya tekhnika, no.3, 1962, 4-6

TEXT: This article describes several kinematic arrangements which can be used in the design of inspection equipment for parts of which the curves are of regular geometrical form, e.g. ellipse, parabola, hyperbola. In the devices which are described, a dial-type micrometer may be used for direct reading equipment or a linear displacement pick-up may be used for automatic recording instruments. A device for inspecting external or internal ellipses is based on the fact that the projection of a circle on a sloping plane is an ellipse. The pick-up head follows the internal (or external) surface of a circular cylinder whilst itself rotating around an axis which is set at an angle to the main axis of the cylinder. A hyperboloid of rotation may be inspected by a device based on the principle that if the part is rotated about its own axis a probe drawn across it at a certain angle to the axis of

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The kinematic circuits ...

S/115/62/000/003/001/010
E194/E484

rotation should follow a straight line. Short parabolic, elliptical and hyperbolic parts may be inspected by a device that reproduces these curves at conic sections. The part to be inspected is mounted in a specially sectioned conical guide which is rotated whilst the probe follows the generating line. A sineid can be inspected by mounting it in a special head which applied to it both rotational and translatory motion. There are 5 figures and 3 Soviet-bloc references ✓

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KARELIN, N.M.; KIPARENKO, V.I.

Method of automatic check of parts with arbitrary curvilinear
profiles. Izv. tekhn. no. 9:5-8 S '63. (MIRA 17:1)

S/115/63/000/004/003/011
E191/E135

AUTHOR: Karelin N.M.

TITLE: Kinematic scheme for the inspection of elliptical gearwheels and of gearwheels obtained by transformation of elliptical gearwheels

PERIODICAL: Izmeritel'naya tekhnika, no.4, 1963, 11-15

TEXT: The kinematic schemes are discussed, necessary to construct inspection fixtures for non-round gearwheels with an elliptical pitch curve or a pitch curve obtained by a transformation of an ellipse. Elliptical gearwheels can be maintained in engagement provided they have the same elliptical pitch curves which rotate about axes located in the foci of the ellipse and the distance between them is equal to the length of the major axis of the ellipse. An ellipse is plotted by means of a three-bar linkage, wherein two bars hinged to each other rotate at equal constant angular velocities in opposite senses. In this mechanism, one point of one of the links describes an ellipse in the immovable plane. Wheels derived from elliptical wheels are obtained when the polar angles are multiplied by a constant

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Kinematic schemes for the inspection... S/115/63/000/004/003/011
E191/E135

factor without changing the length of the associated radius vector. The oval figure so obtained is used, for example, in liquid flow meters. This figure can be obtained by combining the rotation of the component about its centre axis at one angular velocity with the rotation of the radius vector at another angular velocity. Kinematic schemes of inspection mechanisms are illustrated and described. Linkages with few links which can be made with high precision can be designed for inspecting the transmission ratio of elliptical or oval gearwheels. A mechanism for elliptical gears is shown. Properties of the normal to the ellipse are recited, from which a mechanism can be derived for the comprehensive inspection of an elliptical gearwheel in mesh with a cylindrical gearwheel. A kinematic scheme is shown for a special machine to form cut the teeth of elliptical gearwheels individually. The form cutter head is orientated along the normal to the ellipse by a crank mechanism. The blank is made to perform a planetary motion. The division can be carried out with a dividing head. The division angles vary periodically and are derived from an equation of the length of arc of an ellipse by

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Kinematic schemes for the inspection.. S/115/63/000/004/003/011
E191/E135

the use of tables of elliptical integrals. Another mechanism is shown for cutting the teeth of elliptical gears on a Fellows-type gear shaping machine. The necessary ratio variation in the dividing gear train is obtained by a cam mechanism which furnishes the periodic term. Basically, the blank takes part simultaneously in a planetary and a rocking motion. There are 9 figures.

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DUNIN-BARKOVSKIY, I.V.; YAKUSHEV, A.I., doktor tekhn. nauk, prof.,
retsensent; BEZMENOV, A.Ye., kand. tekhn. nauk,
retsensent; KARELIN, N.M., doktor tekhn. nauk, prof., red.

[Principles of interchangeability and technical measurements]
Osnovy vzaimozameniaemosti i tekhnicheskie izmereniia. Mo-
skva, Izd-vo "Mashinostroenie," 1964. 304 p. (MIRA 17:6)

ZEMEL'MAN, M.A.; KARELIN, N.M.; KIPARENKO, V.I.

Metrological problems in automatically controlled production.
Izm.tekh.no. 4:19-20 Ap '64. (MIRA 17:7)

KARELIN, N.N.

112-2-2705

Translation from: Referativnyy Zhurnal, Elektrotekhnika, 1957, Nr 2,
p. 12 (USSR)

AUTHOR: Andriyevskiy, A.I., Karelin, N.N., Sandulova, A.V.

TITLE: Electrical Conductivity of Synthetic Single Crystals of
Cuprous Oxide (Ob elektroprovodnosti iskustvenno
vyrashchennykh monokristallov zakisi medi)

PERIODICAL: Dokl. L'vovsk. politekhn. in-ta, 1951, 1, Nr 2, pp. 23-26

ABSTRACT: Bibliographic entry.

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KARELIN, N. N.

"The Possibility of Obtaining a Uniform Magnetic Field Inside a Cylindrical Coil by Means of Coupling Its Sections in Parallel," Mauch. Zap. In-ta mashinoved, i avtomatiki, 2, No 2, 1953, pp 47-52

A coil with uniform winding is divided into three sections. The lengths of these sections may be computed to keep the longitudinal heterogeneity of the magnetic field originating from the above-mentioned circuitry below that generated by a nonsectional coil. Formulas, tables, and numerical examples are included.

RZhFiz, No 3, 1955

KARELIN N. N.

USSR/Physical Chemistry - Crystals, B-5

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 265

Author: Andriyevskiy, A. I., Karelin, N. N., and Sandulova, A. V.

Institution: Lvov Polytechnical Institute

Title: On the Electrical Conductivity of Artificially Grown Single Crystals of Cuprous Oxide

Original

Periodical: Dokl. L'vovsk. politekhn. in-ta, 1955, Vol 1, No 2, 23-26

Abstract: Single and polycrystals of Cu_2O were obtained by the oxidation of Cu at $1,030^\circ$. In order to obtain single crystals with a surface area larger than one cm^2 , the Cu was first heated in vacuum to $1,000^\circ$. The conductivity σ is given by the formula $\sigma = \sigma_0 \exp(-E/RT)$, where σ and E for single and polycrystals have very close values. A break is observed in the graph $\lg \sigma = f(1/T)$ only when $E > 0.14$ ev.

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KARELIN, N. N.

USSR/Processes and Equipment for Chemical Industries - Control and Measuring Devices.
Automatic Regulation, K-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 64004

Author: Andriyevskiy, A. I., Karelin, N. N.

Institution: None

Title: Measurement of Viscosity of Nontransparent Liquids

Original

Periodical: Priborostroyeniye, 1956, No 4, 24-25, 29

Abstract: Described is an instrument for measuring the viscosity of nontransparent liquids, which operates by the method of determination of the rate of fall of a solid sphere. To determine the position of the ball in the tube filled with the liquid being tested an induction method is proposed with the use of a ferromagnetic ball, which does not require complex equipment or considerable expenditure of time. Measurement accuracy by the induction method is not inferior to that of visual observations. It is noted that the described unit can be utilized for automatic recording of changes in the viscosity of the

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KARELIN, N.N.

USSR/Electricity - Semiconductors

G-3

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 1374

Author : Andriyevskiy, A.I., Karelin, N.N.

Inst : -

Title : Concerning the Problem of the Temperature Coefficient of Resistance of Single Crystals and Polycrystalline Specimens of Cuprous Oxide.

Orig Pub : Dokl. L'vovsk. politekhn. in-ta, 1957, 2, No 1, 19-22

Abstract : The temperature coefficient of resistance of Cu_2O (α) was studied with a polycrystalline and monocrystalline specimen, obtained by prolonged calcination of a plate of copper in air at 1030° . It was established, that the average value of α in the interval $15 - 50^\circ$ fluctuates in the range $0.0053 - 0.032 \text{ deg}^{-1}$. For polycrystalline and single-crystal specimens, obtained from a single plate, also has nearly equal values. The measurements have shown that α diminishes with the temperature for

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USSR/Electricity - Semiconductors

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000720710007-7"

Abs Jour : Ref Zhur - Fizika, No 1, 1958, 1374

specimens of both types. Heat treatment at 1000° leads to a reduction in α and heating in vacuum at the same temperature leads to an increase in α . This is explained by the amount of excess O_2 in the specimens: the less O_2 , the higher the value of α .

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SOV/115-58-6-32/13

A Device for the Automatic Determination of the Viscosity of Cloudy
Liquids

passage time of the balls. The time diagram is shown in
Figure 3. The device may be fed by any power transformer,
e. g. ELS-2, giving an anode voltage of 250 v. There are
2 diagrams, 1 graph and 3 Soviet references.

Card 2/2

SOV/58-59-12-27737

24.7600

Translation from: Referativnyy zhurnal, Fizika, 1959, Nr 12, pp 176 - 177
(USSR)

AUTHORS: Andriyevskiy, A.I., Karelin, N.N., Mishchenko, M.T.

TITLE: The Effects of Thermal Processing of Copper Oxide Plates on the
Nature of the Temperature Relationship to Their Electroconductivity 21

PERIODICAL: Nauchn. zap. L'vovsk. politekhn. in-t, 1958, Nr 57, pp 98 - 105

ABSTRACT: The temperature relationship to the electro-conductivity (σ) of Cu_2O plates, which were subjected to various means of preliminary thermal processing, was investigated within a temperature range of -170 to $+700^\circ\text{C}$. A graph is given, showing the relationship \lg versus $1/T$ for three samples, subjected to different thermal treatment. The most clear-cut effect on the $\sigma(T)$ relationship caused by the nature of the thermal processing, was found to be in the -70 to $+350^\circ\text{C}$ range, i.e., at the change-over from the admixture conductivity to the natural one. For samples, annealed in air at $T = 500^\circ\text{C}$, the lower border-line of this region begins at $T = 70^\circ\text{C}$, for samples annealed in air at $T = 1120^\circ\text{C}$, - at room

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SOV/58-59-12-27737

The Effects of Thermal Processing of Copper Oxide Plates on the Nature of the Temperature Relationship to Their Electroconductivity

temperature, and for samples annealed in a vacuum at $T = 1020^{\circ}\text{C}$, - it begins at $T = 300^{\circ}\text{C}$. The upper border line of the region for all samples is located in the 340 to 360°C range; besides, starting at that temperature and up to 700°C , the $\lg \sigma$ versus $1/T$ curve is a straight line, with the same slope for all the samples, corresponding to the activation energy $\Delta E = 1.5 \text{ ev}$. In the low-temperature range, the $\lg \sigma$ versus $1/T$ relationship can also be expressed by a straight line but its slope for samples, subjected to different thermal treatment, varies. It is presumed that there is a possibility of the different oxygen content in samples, annealed under different conditions, having an effect on the relationship curve, $\lg \sigma$ versus $1/T$. However, the mechanism of this effect remains unclarified.

Yu.K.

Card 2/2

24.7700

SOV/58-59-12-27758

Translation from: Referativnyy zhurnal. Fizika, 1959, Nr 12, p 180 (USSR)

AUTHORS: Andriyevskiy, A.I., Karelin, N.N., Rvachev, A.L.

TITLE: On the Photoelectric Properties of Copper Oxide Single Crystals

PERIODICAL: Nauchn. zap. L'vovsk. politekhn. in-t, 1958, Nr 57, pp 133-137

ABSTRACT: A comparative study of the mono- and poly-crystalline samples of Cu_2O , as to their photoelectric properties, is made. The Cu_2O single crystals were found to have the same properties as the polycrystals, made of the same plate. Some differences were noted only in the spectral distribution of photoconductivity, σ , photoelectric fatigue and in the inertness of the photocurrent. The curves of the spectral distribution of σ , within the wavelength range $\lambda = 500 \div 1000 \text{ m}\mu$, show that in the case of the polycrystals there is only a slight drop in the sensitivity in the $800 \text{ m}\mu$ range. The possible reason for this difference might be due to the fact that the polycrystals have a higher concentration of foreign admixtures than the corresponding single crystals. It is shown that the fatigue of the crystals is some-

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SOV/58-59-12-27758

On the Photoelectric Properties of Copper Oxide Single Crystals

what lower than that of the corresponding polycrystals, but is greater than that of the polycrystals after the latter have been heated. Oscillograms of the photocurrent are submitted, which were obtained by illumination with monochromatic Π -type pulses of light at various wave lengths. The photo-current of poly- and single crystals consists of low- and high-inertia components, whereby the high-inertia component has a higher value in the single crystal, which is especially apparent in the strong absorption band ($\lambda = 610 \text{ m}\mu$).

Yu.S.K.

Card 2/2

24,2200

26528
S/105/61/000/010/001/002
EO36/E335

AUTHORS: Andriyevskiy, A.I., Doctor of Technical Sciences
Professor, Karelin, N.N., Candidate of Technical
Sciences and Yuskevich, Yu.G., Engineer

TITLE: Dependence of the Curie point of copper-zinc
ferrites on composition

PERIODICAL: Elektrichestvo, 1961, No. 10, pp. 66 - 68

TEXT: The Curie point of ferrites of the composition
 $m(\text{CuOFe}_2\text{O}_3)_n(\text{ZnOFe}_2\text{O}_3)$ was determined for a range of values
of the ratio m/n . The basic materials were ground in a mill
for twenty hours. As a binder 5% of a 10% solution of
polyvinyl alcohol was added. The samples were compressed into
toroidal form at a pressure of 3 tons/cm² and sintered in air
at 1 150 °C for six hours and then cooled in the furnace. The
Curie point was determined by a simple method: two coils were
wound on the ferrite toroid, one supplied from the secondary
of a transformer, the other connected to an oscilloscope used
as a sensitive detector. The sample temperature was raised

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S/105/61/000/010/001/002

Dependence of the Curie point ... E036/E335

and monitored by a thermocouple. On passing through the Curie point a characteristic trace on the oscilloscope disappeared, showing that the magnetic flux in the ferrite had also disappeared. It is claimed that the Curie point is determined to an accuracy of 4-6 °C and agrees well with the value determined by other methods. It was found that over the range -160 to 460 °C the dependence of the Curie point (θ) on composition can be expressed by the formula:

$$\theta = a + b \lg \frac{m}{m + n}$$

where $a = 460$ °C, the value of the Curie point for pure copper ferrite (Abstracter's note - presumably 'Q' in the original text is a misprint for 'a', or vice versa)
 $b = 900$ °C for θ in the range from -160 °C to a temperature of approximately 300 °C ($m/n = 0.25 - 1.7$)
 and $b = 700$ °C for θ greater than 300 °C (m/n greater than 1.7).

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26528

S/105/61/000/010/001/002

Dependence of the Curie point EO36/E335

Over a limited range, 0 - 200 °C, a linear relation may be used:

$$\theta = -285 + 950 \frac{m}{m+n} .$$

The behaviour can be understood on the basis of Néel's theory. Ferrites with m/n values of 3/2 and 2 had the best magnetic properties at room temperature. As with copper-nickel ferrites the permeability close to the Curie point increased then dropped sharply. A simple thermal relay using these ferrites is described in which, by choice of suitable ferrites and mechanical parameters, the temperature of switching can be controlled. The apparatus is reliable and simple and the operating temperature of the relay is accurate within a few degrees. A.G. Smolenskiy is mentioned in the article. There are 4 figures and 6 references: 5 Soviet and 1 non-Soviet.

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26528

Dependence of the Curie point

S/105/61/000/010/001/002
E036/E335

ASSOCIATION: L'vovskiy politekhnicheskii institut
(L'vov Polytechnical Institute)

SUBMITTED: January 30, 1961

Card 4/4

ANDRIYEV I.Y., A.I.; KARLIN, L.N.; YEREMICH, Yu.G.

Effect of the addition of various oxides on the electric and
magnetic properties of copper-manganese ferrites. Porosh.met.
5 no.4:44-49 '65. (MIRA 18:5)

1. Kafedra fiziki L'vovskoy. politekhnicheskogo instituta.

KARELIN, N.S.

KARELIN, N.S.

Organization of line repair. Vest.sviazi 17 no.10:61-62 0 '57.

(MIRA 10:11)

1. Zamestitel' nachal'nika Krasnoufimskogo lineyno-tekhnicheskogo
uzla Sverdlovskoy oblasti.

(Electric lines--Maintenance and repair)

KARELIN, Nikolay Timofeyevich

GERONT'YEV, Vladimir Ivanovich, prof.; KARELIN, Nikolay Timofeyevich, dotsent;
LOPATIN, S.I., otvetstvennyy red.; GORSHENKO, V.A., red.izdatel'stra;
BEEKER, O.G., tekhn.red.; ALADOVA, Ye.I., tekhn.red.

[Mine haulage] Rudnichnyi transport. Moskva, Ugletekhizdat, 1957.
566 p.

(MIRA 11:1)

(Mine haulage)

KARLIN, Nikolay Timofeyevich; FAKTOROVICH, A.M., dots.; POLYAKOV, N.S.,
prof., retsenzent; KENGEVICH, A.A., dots., retsenzent; BILICHENKO,
N.Ya., retsenzent; YEVNEVICH, A.V., retsenzent; KOLOMIYTSYEV, A.D.,
otvetstvennyy red.; PROZOROVSKAYA, V.L., tekhn. red.; IL'INSKAYA,
G.M., tekhn. red.

[Mine haulage] Rudnichnyy transport. Moskva, Ugletekhizdat, 1958.
276 p.

(MIRA 11:9)

(Mine haulage)

Karelin, N. T

127-58-5-14/30

AUTHOR: Karelin, N.T., Candidate of Technical Sciences

TITLE: New Locks for the Outlet of Ore From Hatches (Novyye zatvory dlya vypuska rudy iz lyukov)

PERIODICAL: Gornyy Zhurnal, 1958, Nr 5, pp 49-51 (USSR)

ABSTRACT: The mine Nittis-Kumuzh'ye works at present 15 to 30 cm thin, almost vertical veins of copper-nickel ore by the storage system and outlets the ore directly into mine cars. Various types of locks for ore outlet are used, but all of them possess drawbacks. The workers of the Mining Transport Chair of the Leningrad Mining Institute devised a so-called caterpillar lock shown in Figure 1. An experimental lock of this design was tested and many improvements were introduced, resulting in a new type named "support-belt" type, shown in Figure 2. Its main units are: 1) a roll carriage connected with the piston of a pneumatic cylinder; 2) a section of conveyor belt attached to the external side of the hatch, and 3) two rails. By the present time, the mine shops and the plant of the "Severonikel'" Combine have manufactured the first 30 units of the

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New Locks for the Outlet of Ore From Hatches

127-58-5-14/30

support belt hatches, and the first of them are now being installed in the mine. Their advantages are: small dimensions, simplicity of control, possibility of using under different conditions, in particular, with wet and sticky ores.

There are 2 figures.

ASSOCIATION: Leningradskiy gornyy institut (Leningrad Mining Institute)

AVAILABLE: Library of Congress

Card 2/2 1. Mines-Machinery-Development 2. Ores-Excavation

GERONT'YEV, Vladimir Ivanovich, doktor tekhn.nauk, prof.; KARELIN, Nikolay Timofeyevich, dots.; Prinimali uchastiye: GRACHEV, N.P., dots.; TYMOVSKIY, L.G., dots.; GORBACHEV, B.G., kand. tekhn. nauk, otv. red.; KOVAL', I.V., red.izd-va; IL'INSKAYA, G.M., tekhn. red.;

[Mine transportation] Rudnichnyi transport. Moskva, Gosgortekhnizdat, 1962. 424 p. (MIRA 15:11)

1. Kafedra rudnichnogo transporta Leningradskogo gosudarstvennogo universiteta (for Grachev, Tymovskiy). 2. Zavoduyushchiy kafedroy rudnichnogo transporta Leningradskogo gosudarstvennogo instituta (for Geront'yev). (Mine haulage)

KARBLIN, O. N., Cand Med Sci — (diss) "Sanitary evaluation of the sub-surface waters in the Khabarovsk region as a source of water supply for the city," Irkutsk, 1960, 19 pp (Irkutsk State Medical Institute)
(KL, 40-60, 124)

L 24681-66

ACC NR: AP6014689

SOURCE CODE: UR/0240/66/000/005/0046/0051

AUTHOR: Karelin, O. N. (Candidate of medical sciences; Leningrad); Mishina, I. M. (Leningrad)

ORG: none

34/13

TITLE: Some protective measures for medical personnel and patients during the operation of shf physiotherapy apparatus

SOURCE: Gigiyena i sanitariya, no. 5, 1966, 46-51

22

TOPIC TAGS: microwave, shf, physiotherapy, maximum permissible dose, biological effect

ABSTRACT: The Luch-58 and Luch-2 shf generators have recently found wide application in physiotherapy. Medical personnel working with these generators often suffer from headache, rapid fatigability, and disrupted sleep patterns. Since working conditions around these generators have been little studied, the authors used a PO-1 dosimeter to measure power densities in the vicinity of shf generators used for medical purposes. Three tables show the power density values in the vicinity of the control panel of a Luch-58 generator, in the vicinity of a table situated 3 m from the generator, in the area of the eyes when the torso is irradiated, and in the gonad area when the lower body is irradiated. All values were expressed in mw/cm^2 . It was found that the maximum power density was $0.17 \text{ mw}/\text{cm}^2$ in the vicinity of a Luch-58 control panel. At a

Card 1/2

UDC: 615.846-035.4+613.647:615.84

2

L 24681-66

ACC NR: AP6014689

distance of 4.5 m from the generator, power densities did not exceed the maximum permissible level ("10 $\mu\text{W}/\text{cm}^2$ "). It was therefore concluded that the working table for medical personnel should not be placed closer than 4.5 m, or that it should be screened. It was found that the power density in the area of the gonads and eyes could reach 8.7 mW/cm^2 during various therapeutic procedures and cause irreversible lesions in these organs. Patients should also be protected from possible harm from irradiation. The study showed that power density in the vicinity of irradiated body areas could reach 120—600 mW/cm^2 , which could produce a thermal effect. Orig. art. has: 3 tables and 1 figure. [CD]

SUB CODE: 05,06/ SUBM DATE: 11May64/ ATD, PRESS: 4249

Card 2/2 FW

KARELIN, P.

VASIL'YEV, V.; KARELIN, P.

Assembly method of the second technical servicing of GAZ-51 and
GAZ-63 automobiles. Avt.transp.32 no.10:8-9 0'54. (MLRA 7:12)
(Automobiles--Maintenance)

KARELIN, P.; SOBOLEV, V.

Conveyer system used in second technical servicing of motortrucks.
Avt.transp. 35 no.7:16-19 J1 '57. (MLRA 10:8)

1.2-ya avtobaza Glavmosavtotransa.
(Motortrucks--Repairing)
(Assembly-line methods)

1. KARELIN, P. N.
 2. USSR (600)
 4. Chemistry - Problems, Exercises, etc.
 7. Province chemistry contests, Khim. v shkole, No. 6, 1952.
9. Monthly List of Russian Accessions, Library of Congress, February 1953, Unclassified.

22(1)

SOV/3-59-3-6/48

AUTHOR: Karelin, P.N. Docent

TITLE: The School is Waiting for a Versatile Educated Teacher
(Shkola zhdët vsestoronne obrazovannogo uchitelya)

PERIODICAL: Vestnik vysshey shkoly, 1959, Nr 3, pp 18-20 (USSR)

ABSTRACT: The training of teachers in pedagogical institutes, as conducted at present, covers an excessive number of subjects. As a rule, they are trained in 3 specialties: geography, biology, and the fundamentals of agriculture; history, literature and Russian language etc. The author believes that this system of training all-round educated teachers practically disparages the significance of a teacher's special training. The author states that recently, the tendency has been noticed to discontinue training of chemistry teachers at pedagogical vuzes. This means that schools which have not been assigned chemistry teachers for 2 years, will also not receive them within the next three years. The departments of physics and chemistry

Card 1/3

SOV/3-59-3-6/48

The School is Waiting for a Versatile Educated Teacher

established with several pedagogical vuzes will also turn out their first graduates only after 3 years. Special measures are required to improve the situation. He points out that often departments are established with pedagogical institutes without regard to the special economic features of the district which they are to serve. As an example, the author quotes the Vologda Oblast', requiring teachers in chemistry, chemical technology, biology and agriculture, but no departments of chemistry and chemical technology are being opened, and chemistry teachers are being trained together with teachers of biology and agriculture. The author is also dissatisfied with the training given to the teachers of biology and agriculture, who concurrently are being instructed in geography as a specialty. This does not make the teacher a specialist in any particular subject. All these shortcomings in defining the specialty of a teacher's training can be avoided if the working out of curricula is placed on a proper

Card 2/3

"APPROVED FOR RELEASE: 06/13/2000

SOV/3-59-3-6/48
CIA-RDP86-00513R000720710007-7"

The School is Waiting for a Versatile Educated Teacher

scientific-methodological basis. The author complains about the overtaxing of students which has a detrimental effect on the interest for their vocation, etc. He welcomes the reorganization of secondary and higher education, and thinks that it is first of all necessary to train teachers who completely know their specialty. The industrial and pedagogical training should be improved and more time assigned for all kinds of practical work. It is further important to ensure that students have the possibility to work independently with books and in laboratories.

ASSOCIATION: Vologodskiy pedagogicheskiy institut (Vologda Pedagogical Institute)

Card 3/3

KARELIN, P.N.

School laboratory work on chemistry in connection with the
activation of the cognitive activity of students. Khim. v
shkole 16 no.6:31-39 N-D '61. (MIRA 14:11)

1. Pedagogicheskiy institut, Vologda.
(Chemistry—Study and teaching)

KARELIN, P.N.; ALEKSIEV, Khristo [translator]

Laboratory work in schools in the field of chemistry for the
purpose of activating the educational training of students.
Biol i khim 4 no.3:32-39 '62.

STANKEVICH, V.S., kand. sel'skokhoz. nauk; KARELIN, T.I., kand.
sel'skokhoz. nauk

Settling of peat and its effect on the work of drainage systems.
Gidr. i mel. 17 no.12:31-42 D '65. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrotekhniki
i melioratsii im. Kostyakova (for Stankevich). 2. Tsentral'naya
torfo-bolotnaya opyt'naya stantsiya Ministerstva sel'skogo kho-
zyaystva, Kosino (for Karelin).

KARELIN, T.I.; OGNEV, V.V.

[The most important of the wild forage grasses in the Komi A.S.S.R.; biological characteristics of their evolution, their gathering, and utilization] Vazhnelshie dikorastushchie kormovye travy Komi ASSR; biologicheskie osobennosti ikh razvitiia, sbor i ispol'zovanie. Syktyvkar, Komi Gos. izd-vo, 1949. 43 p. (MIRA 14:7)

(Komi A.S.S.R.—Forage plants)

BOBROV, L.; VASILEVSKIY, V.; VLASOV, L.; DRAGUNOV, E.; KAPUSTINSKAYA, K.;
KARELIN, V.; LOSHCHILOV, G.; MAKARENIA, A.; MEDVEDEV, Yul.;
ROMAN'KOV, Yu.; SENCHENKOVA, T.; SENCHENKOV, A.; TRIFONOV, D.;
ANTOYUK, L., red.; LESHCHINSKAYA, G., tekhn. red.

[Journey into the land of the elements] Puteshestvie v stranu
elementov. [By] L. Bobrov i dr. Moskva, "Molodaia gvardia,"
1963. 366 p. (MIRA 16:10)

(Chemical elements)

KARELIN, V. A. Cand Med Sci -- (diss) "Rheovasography as a method of the
~~diagnostic~~^{di} of obliterating endarteritis." Mos, 1957. 16 pp (1st Mos Order
of Lenin Med Inst im I. M. Sechenov), 200 copies (KL, 4-58, 86)

KARLIN, V.A. (Moskva)

Rheovasography in the diagnosis of endarteritis obliterans.

[with summary in English, p. 149-150] Khirurgiia,

33 no.1:34-37 Ja '57

(MLBA 10:4)

(THROMBOANGIITIS OBLITERANS, diagnosis,
rheo-vasography) (Rus)

Urology
KARELIN, V.A.; POTAPOV, Ye.G., kand.med.nauk (Moskva)

Using the rheovasographic method for registering peripheral
circulation during surgery; preliminary report. Klin.med. 35
no.11:112-117 N '57. (MIRA 11:2)

(SURGERY, OPERATIVE, blood in
circ., rheovasographic determ.)

(BLOOD CIRCULATION

perop., determ. with rheovasography)

VARVARIN, V.P.; KARELIN, V.A.

Iontophoretic administration of radioactive iodine in obliterating
endarteritis. Klin.med. 37 no.8:122-125 Ag '59.
(MIRA 12:11)

(IODINE, radioactive)
(THROMBOANGIITIS OBLITERANS, therapy)
(IONTOPHORESIS)

KARELIN, V.F.

Activity of the standardization section at the Leningrad
Province Administration of the Scientific Technological
Society of the Shipbuilding Industry. Standartizatsia 29
no.5:50-51 My '65. (MIRA 19:1)

1. Predsedatel' seksii standartizatsii Leningradskogo oblastnogo
pravleniya Nauchno-tekhnicheskogo obshchestva sudostroitel'noy
promyshlennosti.

KARELIN, V.F., inzh.

All-Union Industrial Conference on problems of Standardization and
Specialization in Shipbuilding. Sudostroenie 29 no.10:82 0
'63. (MIRA 16:12)

SHCHEGOLEV, Aleksandr Pavlovich; ALEKSANDROV, A.V., kand. tekhn.
nauk, retsenzent; KARELIN, V.F., nauchn. red.; NIKITINA,
R.D., red.

[Testing and adjustment of ship ventilation systems] Ispytanie i nastroyka sudovykh ventilatsionnykh sistem. Leningrad, Izd-vo "Sudostroenie," 1964. 102 p.

(MIRA 17:4)

KARELIN, V.F., inzh.

Work of the standardization sections. Sudostroenie 27 no.11:
78 N '61. (MIRA 15:1)

(Shipbuilding)

KARELIN, V.F., inzh.

Standardization for every given design. Sudostroenie 29
no.3:45-47 Mr '63. (MIRA 16:4)
(Naval architecture) (Shipbuilding materials)

POKHODUN, Timofey Dmitriyevich; KARELIN, V.F., retsenzent;
POKHVALOV, Ye.P., retsenzent; RYBALKO, B.V., nauchn.
red.; VLASOVA, Z.V., red.

[Standardization in shipbuilding] Standartizatsia v
sudostroenii. Leningrad, Sudostroenie, 1965. 179 p.
(MIRA 18:7)

S/133/60/000/011/002/023
A054/A029

AUTHORS: Chukin, V.V., Candidate of Technical Sciences, Miller V.Ya.,
Professor, Toporkov, S.D., Candidate of Technical Sciences,
Karelin, V.G. Engineer, Bogoslovskiy, V.N., Engineer, Leont'yev,
L.I., Engineer

TITLE: Fluidized Magnetic Conversion of the Lisakovsk Iron Ores

PERIODICAL: Stal', 1960, No. 11, pp 965-971

TEXT: The magnetic roasting of Lisakovsk iron ore was investigated by the UFAN Institute of Metallurgy and by the Uralmekhanobr in cooperation with the Vsesoyuznyy nauchno-issledovatel'skiy institut metallurgicheskoy teplo-tekhniki (All-Union Scientific Research Institute of Metallurgical Heat Technique). The kinetics of roasting were examined on a laboratory scale (in the UFAN by L.I. Leont'yev under the supervision of Professor V.Ya. Miller), the aero- and hydrodynamics of the fluidized bed were investigated in a transparent model while experiments were also carried out in a roasting furnace on a semi-industrial scale. The iron ore tested consisted of 35-37% Fe, 0.23% FeO, 26-28% SiO₂, 10-13% hydrate water and 8-10% hygroscopic water; the 0-2 mm fraction in this ore amounted to 80%. In the laboratory equipment (a vertical, tubular
Card 1/4

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S/133/60/000/011/002/023
AO54/A029

Fluidized Magnetic Conversion of the Lisakovsk Iron Ores

resistance furnace and a ceramic reaction tube, 20 mm in diameter) 25 g of the iron ore (1-3 mm fraction) was calcinated. The sample was heated up to 700°C by flue gases having a composition which corresponds to that of the actual operation. Next the sample was crushed to 0-0.25 mm size and enriched in a humid magnetic analyzer, in which the intensity of the magnetic field was 900 oersted. Extraction of iron was most intensive (up to 92%) when increasing the (CO+H₂) content in the gas to 2.5%; however, at such a high degree of extraction the rate of reduction of iron oxide to magnetite amounted to only 50%. Maximum extraction can be obtained when the quantity of reduction agents in the gas amounts to 3.7% (61.5% iron). Since there were 3.7% reducing agents in the gas, the optimum enriching results were obtained after calcination at 800°C, while the magnetizability of the ore suddenly increases when reducing the roasting temperature to 700°C. Tests were also carried out with various fractions (1-7 mm) and at various temperatures. When roasting in a neutral medium (purified nitrogen) at about 800°C the magnetizability of the ore increased considerably: the concentrate contained more than 59% Fe and also about 7.5% bivalent FeO. In order to establish the nature of the magnetic phases, X-ray structural analyses were carried out on crude and calcinated ores in nitrogen

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S/133/60/000/011/002/023

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Fluidized Magnetic Conversion of the Lisakovsk Iron Ores

gas at 800°C and it was found that the high degree of magnetization was due to the formation of unbalanced magnetic ferrum-oxides with distorted crystal lattices in the decomposition process of hydrogoethite upon rapid heating, but also due to the accelerated reduction processes during the transformation of crystal lattices of ferro-hydroxides. The tests and calculations suggested that the speed of magnetic roasting is not so much limited by the fact that crystal-chemical transformations take place, but rather more by the dehydration rate of the ore, i.e., by the heating rate of its particles. The aero-hydrodynamics of the fluidized bed were tested on a transparent model, the main parts of which are a chamber, a worm-type feeder, a cyclone and a bunker. The effect of the air velocity in the chamber on the fluidized bed was examined and it was found that the specific resistance of the fluidized bed decreases with the height of the bed and also with the increase of the average air velocity due to the increasing porosity of the bed. The field of concentration, the granulometric structure of the dust within the chamber, the time during which the dust stayed in the chamber were also examined. In the roasting furnace tests were carried out according to four schemes (with reducing agents in the gas from 0.85 to 4.5% and by feeding ore in amounts of 85 to 145 kg/h). It was found that when applying di-

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S/133/60/000/011/002/023
A054/A029

Fluidized Magnetic Conversion of the Lisakovsk Iron Ores

viding walls in the heated bed, the distribution of particles during their stay in the chamber improved considerably, and that the chambers with rectangular cross sections were more suitable than those with circular cross sections. The best enriching results were obtained by crushing the calcinated ores to 0 - 0.2 mm and by recovering the free oxides (mainly 0.1 - 0.2 mm in size). At such a degree of crushing the concentrate contained 58.04 - 58.44% Fe, the yield in calcinate ore was 67.89 - 65.79%, while the quantity of extracted iron amounted to 98.15 - 97.22%. There are 9 figures and 2 tables.

ASSOCIATION: VNIIMT, Uralsmekhancbr, institut metallurgii UFAN (UFAN Metallurgical Institute)

Card 4/4

KARELIN, V.G.; RUBEL', R.B.

Caves of Nizhniye Sergi District, Sverdlovsk Province. Okhr.
prir. na Urale no.1:149-155 '60. (MIRA 14:4)
(Nizhniye Sergi District--Caves)

KARELIN, V.G.; RUBEL', R.B.

Work of the Section of Speleologists. Okhr. prir. na Urale no.1:
179 '60. (MIRA 14:4)
(Sverdlovsk Province—Speleology)

CHUKIN, V.V., kand.tekhn.nauk; TOPORKOV, S.D., kand.tekhn.nauk;
MILLER, V.Ya., prof.; KARELIN, V.G., inzh. LEONT'YEV, L.I., inzh.

Magnetizing roasting of Lisakovskoye deposit iron ores in Gor.
zhur. no.6:60-64 Je '61. (MIRA 14:6)
(Kustanay region--Iron ores)
(Ore dressing)

KARELIN, V. N.

33356. Rodstvennyye Gruppy I Metod Lineynogo Razvedeniya Burogo Latviyskogo
Skota. Agrobiologiya, 1949, No. 5, C.98-106.

So. Letopis' Zhurnal'nykh Statoy, Vol., 45, Moskva, 1949

L 40025-66

ACC NR: AP6004219

(A)

SOURCE CODE: UR/0331/65/000/009/0005/0007

16
B

AUTHOR: Karelin, V. N.; Leshchenko, Ye. N.; Maksimov, V. A.

ORG: [Karelin] Khabarovsk Polytechnic Institute (Khabarovskiy politekhnicheskiy institut); [Leshchenko] Administration of Lumber Industry, Khabarovsk SNKh (Upravleniye lesnoy promyshlennosti Khabarovskogo SNKh); [Maksimov] Zeyskiy lespromkhoz

TITLE: Heavy duty tractor trailers require more powerful engines

SOURCE: Lesnaya promyshlennost', no. 9, 1965, 6-7

TOPIC TAGS: cargo truck, special purpose truck, tractor, ¹⁴WOODWORKING MACHINERY

ABSTRACT: Comparative experimental studies were conducted on a heavy duty tractor trailer and the MAZ-501 modified tractor with trailer 2 R-15 Kh to compare their fuel consumption and labor productivity in transporting logs from logging areas. The specific modifications, total load capacity, method of loading and unloading logs, type of terrain, horsepower efficiency of engines used, the cost of transporting 1 m³ of lumber and other technical and performance data are given. The tests were conducted during the winter of 1964-1965 by the Khabarovsk Polytechnic Institute at the Zeysk lumber production facility. It was concluded that the MAZ-501 heavy duty tractor trailer with the 2 PP-20 semi-trailer is preferred because it considerably increases

UDC: 634.0.377.45

Card 1/2

L 40025-66

ACC NR: AP6004219

the load-carrying capacity of the vehicle and decreases the amount of gas used per volume of lumber carried. Orig. art. has: 1 photograph.

SUB CODE: 13, // / SUBM DATE: none

rs
Card 2/2

1. KARELIN, V. N.
2. USSR 600
4. Cattle
7. Further ways to increase milk and beef yield of Brown Latvian cattle.
V. N. Karelin. Sov. Zootekh. 7 no. 5; 19-23 My '52
Kandidat Sel 'skokhozyaystvennykh Nauk
9. Monthly List of Russia Accessions, Library of Congress, July 1952.
UNCLASSIFIED.

USSR/Farm Animals. Horses.

Q

Abs Jour: Ref Zhur-Biol., No 4, 1958, 16749.

Author : Karelina V.N., Karaush O.N., Stikan P.A.

Inst :

Title : The Basic Aspects of Purebreeding Work with the
Latvian Draft Breed of Horses (Osnovnyye položeniya
plemennoy raboty s latviyskoy upryazhnoy porodoi
loshadey)

Orig Pub: Sb. tr. In-ta zootekhn. i zoogigiyeny. AN LatvSSR,
1956, 8, 3-35.

Abstract: A breed of draft horses was raised in Latvia and
was approved by the Council of Ministers of the
USSR in 1952. In the production of this breed,
the principal factor was the crossing of Oldenburg
and Hanover breeds of horses. From these crossings

Card : 1/2

12

KARELIN, V. N. Doc Agr Sci -- (diss) "Theory and practice of the line-raising
of Latvian chestnut-colored cattle and Latvian draft horses." Len-Pushkin, 1958.
33 pp (Min of Agriculture USSR. Len Agr Inst), 100 copies (KL, 14-58, 115)

SHUMSKIY, P.I., otv. red.; GAYKO, A.A., red.; VOYTKO, D.I., red.;
KAKELIN, V.N., red.; NAGORSKAYA, Ye.D., red.; SOLNTSEV,
K.M., red.; SIDGRENKO, G.M., red.; DOMASHEVICH, O., red.

[Increasing the production and improving the quality of
meat; transactions of the White Russian Research Institute
of Animal Husbandry] Uvelichenie proizvodstva i uluchshenie
kachestva miasa; trudy Belorusskogo nauchno-issledovatel'-
skogo instituta zhivotnovodstva. Minsk, Izd-vo "Urozhai,"
1964. 155 p. (MIRA 17:7)

1. Minsk. Instytut zhyvelahadouli.

ACCESSION NR: AP5001143

S/0113/64/000/007/0020/0023

AUTHOR: Karelin, V.N.

TITLE: A study of the operation of the power units of fifth-wheel truck tractors in snow

SOURCE: ³⁰⁻Avtomobil'naya promyshlennost', no. 7, 1964, 20-23

TOPIC TAGS: tractor trailer, truck tractor, fifth wheel tractor, snow driving, traction, axle placement, driving wheel

ABSTRACT: In automobile theory and in practical investigations of driving wheels, it is necessary to use traction or power balance equations. However, when solving problems of passability, power and power unit operation on a deformed layer, it is more convenient to use the balance of work along path S. This equation $(M_2/n - TS = M_2/n)$ shows the relationship between the work of the power unit and the effective work together with work lost along path S. For the purposes of the present study, tests were made with an MAZ-502 tractor trailer and an IPP-10 semi-trailer. The tests were made on snow with a depth of 28-32 cm. At the bottom was an 8-10 cm layer of coarse "old" snow, 1 cm of icy snow with 3 cm of fresh snow on top. From top to bottom the snow density changed from 0.23 g/cc to 0.27-0.31 and then to 0.31 g/cc. The air temperature was between -11 and -17°C.

Card

1/3

AC JESSION NR: AP5001143

During the tests, the torque was registered on all four axes, as well as the horizontal forces transmitted from the front drive wheels to the frame of the tractor, variation of vertical forces on the axes, radial deformation of the tires, speed of the drive wheels, total tractive force at the tractor-trailer coupling and the distance travelled. The tests indicated that increase of torque resulted in high loss of power in the power units according to a parabola of the fourth order. The tractor worked better in second gear than in first, as the maximum efficiency, maximum torque, optimal tractive force and passability of the power units increased. A certain range of supplied torque was found which ensures the most economical and efficient operation of the driving wheels (1470-2120 kg-m for the given conditions). Distribution of torque at the drive axes was in direct proportion to the distribution of axial loads, depending not only on the weight above them, but also on the friction of the driving wheels. A distance of 350-370 mm between the axle under the fifth wheel and the axle of the rear drive wheels is the best for the given snow conditions and temperature. Orig. art. has: 3 figures, 4 equations and 1 table.

Cord

2/3

ACCESSION NR: AP5001143

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut mekhanizatsii i energetiki
lesnoy promyshlennosti (Central Scientific-Research Institute of Mechanization and Power
for the Timber Industry)

SUBMITTED: 00

ENCL: 00

SUB CODE: PR

NO REF SOV: 000

OTHER: 000

Card 3/3

БАРЕН, Ye.M., kand. ekonom. nauk; KAMENIN, V.S., kand. ekonom. nauk

Decisive conditions of the raise of production profitability.
Stroi. mat. 11 no. 12:3-5 D '65. (MIRA 18:12)

PRISELKOV, Yu.A.; SAPOZHNIKOV, Yu.A.; TSEPLYAYEVA, A.V.; KARELIN, V.V.

On the accuracy of the effusion method. Determination of indium
saturated vapor pressure. Izv.vys.ucheb.zav.;khim. i khim.tekh.
3 no.3:447-451 '60. (MIRA 14:9)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova,
kafedra neorganicheskoy khimii.
(Indium) (Vapor pressure)

S/189/60/000/005/003/006
B110/B217

AUTHORS: Tsaplyayeva, A. V., Priselkov, Yu. A., Karelin, V. V.
TITLE: Measurement of the pressure of saturated silicon vapor
PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 2, khimiya, no. 5,
1960, 36-38

TEXT: At present the physico-chemical properties of semiconductors are extremely interesting. The present study deals with pressure measurement of saturated silicon vapor and the calculation of its heat of sublimation. It is possible that the values determined by means of the boiling point and jet method are unreliable due to inaccurate determination of the beginning of boiling. The mass spectroscopic determination of the pressure of saturated vapor, as well as that of molecular composition and the heat of sublimation by R. E. Honig (Refs. 4 and 5, see below) led to the conclusion that Si vapor is monatomic and the amount of $\text{Si}_2 \dots \text{Si}_7$ molecules by two orders of magnitude lower. The inadequate method of measurement leaves doubts as to the correctness of the results. Knudsen's effusion method was used in an apparatus with high-frequency heating to render the data more precise; this

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Measurement of ...

S/189/60/000/005/003/006
B110/B217

apparatus is described in (Ref. 7: Yu. A. Priselkov et al.: Izv. AN SSSR, otd. tekhn. nauk; Metallurgiya i toplivo No 1, 106, 1959). Pure Si (99.95%) was used for this purpose. The molybdenum vessel and -diaphragm were degasified in vacuum at 1500-1800°C. The considerably lower vapor pressure of the molybdenum silicide thus formed has no effect upon determination. The ratio between the evaporation surface of the substance and the surface of the effusion opening (diameter = 0.173) should be at least 800. In the above experiment it was 22600. The water-cooled quartz receiver was previously heated to 100-150°C and protected with a layer of fluoroplast. The sublimated Si was dissolved in 10 ml of hot KOH (1:5) and 5 ml water. It was calorimetrically determined by the method described (Ref. 8: Yu. I. Usatenko et al.: Zavod. Lab., 15, 11, 1949) (Ref. 9: A. I. Ul'yanov: ibid. 12, 1154, 1953) which bases upon the formation of the blue silicon-molybdenum complex. Table 1 shows the results obtained. Proceeding from Honig's assumption of the monatomic character of Si vapor, vapor pressure and sublimation pressure were calculated. To determine the sublimation heat at 0°K, the thermodynamic potential for gas- and consensed phases ϕ_g and ϕ_k were used, which had been determined in the IGI AN SSSR (Institute of Mineral Fuels of AS SSSR). The following equation was derived:

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Measurement of ...

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$\log p = 9.602 - 18558/T$, where p = pressure in mm Hg. The values obtained were in agreement with previously published data (Ref. 2: O. Ruff et al.: Z. Elektrochem. 32, 515, 1926) (Ref. 3: E. Baur et al.: Helv. chim. acta, 17, 959, 1934) differed, however, from Honig's values, since the latter carried out evaporation with exposed surface. If $\alpha < 1$, the pressure is lower than the real pressure. In the present study, the maximum relative error (δ_p) for the pressure was 18.65%, for $\Delta H_o^o (\delta \Delta H_o^o)$, 1.6%. Thus, $\Delta H_o^o = 90.6 \pm 1.5$ kcal/mole was obtained for the standard sublimation heat at 0°K. There are 1 figure, 2 tables, and 9 references: 3 Soviet-bloc and 6 non-Soviet-bloc. The two references to English-language publications read as follows: Ref. 4: R. E. Honig: J. Chem. Phys., 22, 1610, 1954; Ref. 5: R. E. Honig: RCA Rev. a technical Journ., 28, 195, 1957.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
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SUBMITTED: December 18, 1959

Card 3/5

35997

S/189/62/000/002/003/004
D228/D302

1.2100

AUTHORS: Karelin, V.V., Nesmeyanov, A.N., Priselkov, Yu.A., and
Chou K'un-Ying

TITLE: Measuring the pressure of metallic yttrium vapor

PERIODICAL: Moscow. Universitet. Vestnik. Seriya II, khimiya,
no. 2, 1962, 40 - 41

TEXT: The authors measured the pressure of metallic yttrium vapor by the integral version of Knudsen's effusion method. The amt. of evapd. matter was detd. either photometrically or radiometrically at different temps.; the results are given in a table. The value of the heat of evapn., which equals 72.31 kg-cal/mole, was found for the temp. range 1361-1761°K from the equation; $\log P(\text{in mm Hg}) = 7.8130 - 15803/T$. The heat of sublimation of yttrium at 298°K was calcd. at 85.71 kg-cal/mole the value for the coefficient of evaporation being ~ 0.05 . The coincidence of data, obtained with different equipment and samples, is considered to illustrate the reliability of the results, as is their general agreement with those of

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X

Measuring the pressure of metallic ... S/169/62/000/002/003/004
D228/D302

K.A. Gshneyder. There are 1 table and 5 references: 4 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: D.R. Stull et al, Advances in Chem., no. 18, 1956.

ASSOCIATION: Kafedra radiokhimi (Department of Radiochemistry)

SUBMITTED: June 21, 1961

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37519
S/020/62/144/001/017/024
B119/B144

AUTHORS: Men'kov, A. A., Komissarova, L. N., Karelin, V. V.,
Priselkov, Yu. A., Nesmeyanov, An. N., and Spitsyn, Vikt. I.,
Academician

TITLE: Investigation of high-purity metallic scandium

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 1, 1962, 122 - 125

TEXT: 99.5% pure Sc was produced by high-vacuum distillation of 97 - 97.5% Sc. The pure metal was studied metallographically and tested for its behavior to O_2 , N_2 (in a device designed by R. D. Shapovalova and I. A. Vasil'yeva), and differently concentrated solutions of HCl , H_2SO_4 , HNO_3 , and $NaOH$ at 25, 50, and $100^\circ C$. The results were compared with those obtained for 97% Sc. The polished, non-etched surface of 97% Sc reveals the grain boundaries in polarized and nonpolarized light. No second phase appears in spite of 0.9% oxygen content. With high-purity Sc, the grain boundaries are only visible in polarized light. 99.5% Sc starts reacting at $200^\circ C$ with O_2 , at more than $600^\circ C$ with N_2 (formation of ScN). Dissolving

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tests with the agents mentioned were made under conditions effecting a reaction of zero order. The dissolution rate constant for Sc of both degrees of purity was $0.75 \text{ mg} \cdot \text{l} \cdot \text{cm}^{-2} \cdot \text{min} \cdot \text{g}^{-1}$ at 25°C for H_2SO_4 and HCl , and 0.015 for HNO_3 . According to calculations, the activation energy of the dissolving process was $9.0 \pm 0.2 \text{ kcal/g-eq}$. Sc reacts very slowly with NaOH solutions of more than 10% . From $97 - 99.5\%$, the purity of the sample has a much stronger effect on the physical than on the chemical properties of Sc. There are 4 figures and 2 tables. The most important English-language reference is: F. H. Spedding, A. H. Daane, G. Warkefield, D. H. Bennison, Trans. Metallurg. Soc. AIME, 218, no. 4, 608 (1960).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

SUBMITTED: January 12, 1962

Card 2/2

38107

S/020/62/144/002/019/028
B101/B144

5.2300

AUTHORS: Karelin, V. V., Nesmeyanov, An. N., and Priselkov, Yu. A.

TITLE: Vapor pressure of metallic scandium

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 144, no. 2, 1962, 352-354

TEXT: Data of F. H. Spedding, A. H. Daane, G. Wakefield, and D. H. Dennison (Trans. of the Metallurg. Soc. AIME, 218, no. 4, 608 (1960)) on the vapor pressure of Sc were verified by Knudsen's integral effusion method. Sc was evaporated out of a tantalum crucible, and the vapor was condensed in a quartz receiver. The amount of condensate was determined radiometrically using Sc^{46} , and, in some cases, photocolorimetrically using arsenazo. Sc^{46} was obtained by bombarding Sc with slow neutrons from a nuclear reactor, and its purity was checked with a gamma spectrometer or by liquid chromatography. Results: (1) At a constant temperature of $1430^{\circ}K$, saturation was reached at an $S/K\sigma$ ratio of 800-60,000 (S = area of vaporizing surface; K = Klausen's coefficient; and σ = area of effusion port). (2) In the range $1301-1644^{\circ}K$ it is found that $\log P_{Sc}(\text{mm Hg}) = 8.6553 - 17576/T$. (3) The heat of sublimation of Sc is given by

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$\Delta H_T = 80.42$ kcal/g-atom; $\Delta H_{2980} = 82.28$ kcal/g-atom. (4) The present data are a little higher than those given by Spedding et al. (errors: $\pm 15\%$ with the use of radioactive samples, and $\pm 20\%$ with inactive samples) which are believed to be too low by reason of a systematic error. (5) The results are significant for the vacuum metallurgy of rare-earth elements. There are 2 figures and 1 table.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
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PRESENTED: January 22, 1962, by Vikt. I. Spitsyn, Academician

SUBMITTED: January 12, 1962

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